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STEPHEN E. BONDURA, ESQ.
DORITY & MANNING, P.A.
P.O. BOX 1449
GREENVILLE, SC 29602-1449

EXAMINER

VANATTA, AMY B

ART UNIT	PAPER NUMBER
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3765

DATE MAILED: 05/21/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/733,009

Applicant(s)

FICKER, FRANK

Examiner

Amy B. Vanatta

Art Unit

3765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-48 is/are pending in the application.
- 4a) Of the above claim(s) 44-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 and 7. 6) ☐ Other: _____

DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 28-43, drawn to a process for providing stretching forces to fibers, classified in class 28, subclass 240.
 - II. Claims 44-48, drawn to an apparatus for applying stretching forces to fibers, classified in class 28, subclass 240.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process can be practiced by another and materially different apparatus such as one which does not use a stretch chamber having an inlet and an outlet and a plurality of chamber sections which differ in diameter.
3. Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Stephen Bondura on April 30, 2003 a provisional election was made without traverse to prosecute the invention of Group I, the process, claims 28-43. Affirmation of this election must be made by applicant in

Art Unit: 3765

replying to this Office action. Claims 44-48 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 28, 34, 38-40, and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Graf (US 5,386,618).

Graf discloses a process including the steps of providing fibers (F) to be stretched, providing at least one fluid (see liquid tank 3), and entraining the fibers to be stretched with the fluid, in stretching chamber 1, so as to exert at least a portion of the tensile force necessary to cause stretching of the fibers in a stretching direction. The fluid is introduced into the stretch chamber 1 by use of an injector 10 (see Fig. 2), as in claim 38. The fluid is circulated in a recycle circuit (col. 2, lines 19-23) as in claim 39. The fluid is a liquid which appears to be water, as in claim 34, since Graf discloses that “the water” is later separated from the fibers in chamber 2 (col. 2, lines 52-55). Graf discloses that the fibers are premoistened to provide them with a coating of liquid so as to reduce friction, this premoistening step being a step of treating the fibers with an additive for the lessening of cohesion as in claim 40. The flow of fluid is regulated by means of valve 6, as in claim 43.

Art Unit: 3765

7. Claims 28-35, 37, 38, and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Finlayson et al (US 2,622,961).

Finlayson et al disclose a process including the steps of providing fibers to be stretched, providing at least one fluid, and entraining the fibers to be stretched with the fluid so as to exert at least a portion of the tensile force necessary to cause stretching of the fibers in a stretching direction (see col. 12, lines 4-17, disclosing that at least the major part of the stretching action is exerted by the flow of the steam itself, and that the rollers 31-34 may be dispensed with altogether). The fluid is disclosed as steam, which encompasses air as in claim 34. The filamentary textile material in the process of Finlayson meets the claim limitation of being fibers to the extent recited in claim 37. The entraining of the fibers is performed in a stretch chamber and the fluid is introduced into the chamber by means of an inlet passage 24 which forms an injector as in claim 38. The flow of fluid is regulated by means of the valve 37 as in claim 43.

With regard to claims 29-33 and 35, the yarn passes through a series of passages (see Fig. 6) having nozzles which direct steam at pressures and velocities which vary from passage to passage. These nozzles of differing velocities and pressures create alternating tension of the yarn and relaxing of the yarn, which would inherently result in portions of the yarn moving faster than other portions of the yarn as the yarn passes from the inlet to the outlet of the device of Fig. 6 (col. 10, lines 23-75). Some of the steam flows backwards, from right to left (col. 10, lines 56-68), thus exerting components opposite to the stretching direction as in claim 32. The fluid entrains the yarn throughout the length of the passages of Fig. 6, i.e. at both the faster

Art Unit: 3765

moving portions and the slower moving portions. The inter-fiber cohesive forces are less than the total entraining tensile forces subjected to the fibers as in claim 30. The force on the yarn is produced by pressurized steam, which is a pneumatic force as in claim 35.

8. Claims 28-31, 33-38, and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Birk et al (US 4,346,504).

Birk et al disclose a process including the steps of providing fibers to be drawn, providing at least one fluid (from supply 16), and entraining the fibers to be drawn with the fluid so as to exert at least a portion of the tensile force necessary to cause drawing of the fibers in a drawing direction. The "drawing" disclosed by Birk is known in the art to be stretching. See, for example, the definition of "drawing" supplied in the text book entitled "Introductory Textile Science" (see reference U on PTO-892). The second definition is applicable here (the first definition is applicable to slivers of staple fibers, while the second definition is applicable to continuous filaments yarns, which are the types of fibers being processed by Birk). This definition of "drawing" reads "The stretching, either hot or cold, of continuous filament yarns to align and arrange the molecular structure within the filament." Thus, the term "drawing" as used by Birk encompasses stretching. The fluid is disclosed as air, as in claim 34 (col. 10, line 29). The filament bundle in the process of Birk meets the claim limitation of being fibers or fibers bands to the extent recited in claim 37. The entraining of the fibers is performed in a stretch chamber and the fluid is introduced into the chamber by means of an inlet

Art Unit: 3765

port 30 which forms an injector as in claim 38. The flow of fluid is regulated by means of the "controlled supply" 16 as in claim 43. Regarding claim 36, Birk teaches that the filaments, during processing with the drawing chamber, are processed so as to be in a state of "openness or filament parallelity and separation" when the filaments exit the processing unit (col. 6, lines 15-18). Since carding of fibers is a process by which fibers are sorted, separated, and at least partially aligned, the drawing apparatus of Birk functions to card the fibers to the extent recited in claim 36.

With regard to claims 29, 30, 31, 33, and 35, the yarn passes through a fluid forwarding apparatus 15 and a friction tube 60. In the friction tube 60, frictional drag forces are produced on the yarn. Thus, portions of the yarn, when comparing the portions within passageway 42, transition zone 57, and friction pipe 61, are moving faster than other portions of the yarn, due to the differing velocities of the fluid and the frictional drag on the yarn. The fluid entrains the yarn at all portions through transition zone 57 and friction pipe 61, and thus the fluid entrains the fibers at both the faster moving portions and the slower moving portions. The inter-fiber cohesive forces are less than the total entraining tensile forces subjected to the fibers as in claim 30. The force on the yarn is produced by air, which is a pneumatic force as in claim 35.

9. Claims 28, 34, 37, and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Terakawa et al (US 5,511,960).

Terakawa et al disclose a process including the steps of providing fibers to be stretched, providing at least one fluid, and entraining the fibers to be stretched with the

fluid so as to exert at least a portion of the tensile force necessary to cause stretching of the fibers in a stretching direction (see col. 7, lines 51-55). The fluid is disclosed as air as in claim 34 (col. 7, lines 57-58). The material being treated is fibers, as in claim 37. The fibers are entrained with the fluid in a stretch chamber and a spinning apparatus (15) is provided to spin the fibers before the step of entraining the fibers b the fluid which travels through passage 16. The fluid is circulated into the chamber (through passages 18,16) between the spinning apparatus and the stretch chamber as in claim 41.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Finlayson et al (US 2,622,961) in view of Hill et al (US 2,276,394).

Finlayson et al disclose a process as claimed, however the step of drying the fibers is not disclosed. Hill et al disclose a process of stretching textile materials, wherein the filaments are stretched in a stretching chamber (9) with the use of steam. Hill et al disclose a step of drying the filaments after stretching by means of drying drums 26. It is conventional in art to dry the filaments, threads, or yarns after being stretched or otherwise treated with fluid so as to ready the filaments for storage or

Art Unit: 3765

further processing. It would have been obvious to one having ordinary skill in the art at the time the invention was made to dry the filaments of Finlayson et al after stretching in order to prepare the filaments for storage or further textile processing, as disclosed by Hill et al.


Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy B. Vanatta whose telephone number is (703) 308-2939. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Calvert can be reached on (703) 305-1025. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3579 for regular communications and (703) 305-3579 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.


Amy B. Vanatta
Primary Examiner
Art Unit 3765

abv
May 16, 2003